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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BARQADLE, YASIN M

ART UNIT PAPER NUMBER

2153

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/775,329

Applicant(s)

BREITBART ET AL.

Examiner

Yasin M. Barqadle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. Applicant's arguments filed on September 19, 2005 have been considered but are not deemed to be persuasive.

- Claims 1-21 are presented for examination.
- Claims 1,3-6 are currently amended.

Response to Arguments

2. In response to applicant's argument page 8, first paragraph that "Hsu, therefore, is concerned with the costs that are advertised at a router but does not address selecting with OSPF aggregates to advertise by an area border route." Examiner notes that Hsu teaches "OSPF introduces the concept of area to improve Autonomous System (AS) scalability through topology hierarchy. In this section, we consider extending the multi-class algorithm with cost bias to inter-area routing scenarios. The biased cost route selector follows the approach in which the area border routers (ABRs) calculate the available path bandwidths to networks external to an area and advertise them in the summary LSAs (or some new Opaque LSAs." (Col. 10, lines 22-41).

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In response to applicant's argument in page 8, last paragraph that "Hsu does not teach selects at least a subset of said candidate OSPF aggregates such that a selected shortest path length between a particular source and destination subnets resulting from advertisement of a set of weighted aggregates approaches said shortest path length between said particular source and destination subnets irrespective of said advertisement." Examiner notes that HSU teaches this limitation as explained in the previous action. Particularly, the abstract shows selecting a route for a flow from a plurality of networks paths (OSPF aggregates, see fig. 3 and col.5, lines 28-58) connecting a source to a destination. Further Hsu teaches a cost (weight) of a link which is the product of its static cost from link state advertisement and calculated cost bias factor for each link col. 6, lines 29-65 and col. 10, lines 13-61].

In response to applicant's argument in page 10, second paragraph that " Hsu does not does not employ a search heuristic..." Examiner notes that Rabinovich teaches this limitation see for example col. 10, lines 31-65 and col. 15, lines 60 to col. 16, line 22]. Using heuristic to assign weight or other functions is a matter of design choice.

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In response to applicant's argument in page 10, first paragraph that "Rabinovich does not teach or suggest assigning weights based on an average distance but teaches assigning weights for each individual link." Examiner notes that Rabinovich is used to for the issue of the average distance of subnets in an area (autonomous system areas) as disclosed in Col. 14, lines 8-33 and col. 19, lines 12 to col. 20, line 10. Assigning weights are taught by Hsu. Applicant must look the references in their entirety and not on individual basis.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by HSU USPN (6363319).

As per claim 1, Hsu teaches a system for selecting open shortest path first (OSPF) aggregates to advertise (summary information of network fig. 1c and col. 5, 44-54), comprising:

a database configured to include (database 154, Fig. 1D) candidate OSPF aggregates and corresponding weights (link cost) [fig. 1C and col. 4, 38-45 and col. 5, 44-54]; and

an aggregate selector (fig. 1c BCRS 115C), associated with said database, configured to select at least a subset of said candidate OSPF aggregates to advertise by an area border router "OSPF introduces the concept of area to improve Autonomous System (AS) scalability through topology hierarchy. In this section, we consider extending the multi-class algorithm with cost bias to inter-area routing scenarios. The biased cost route selector follows the approach in which the area border routers (ABRs) calculate the available path bandwidths to networks external to an area and advertise them in the summary LSAs (or some new Opaque LSAs." (Col. 10, lines 22-41), such that a path length between a particular source and destination subnets (col. 4, lines 1-17 and col. 5, lines 44-52) selected from advertisement of weights corresponding to said subset approaches

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a shortest path length between said particular source and destination subnets irrespective of said weights advertised [the cost (weight) of a link is the product of its static cost from link state advertisement and calculated cost bias factor of for each link col. 6, lines 29-65; and col. 10, lines 13-61].

As per claim 2, Hsu teaches the system as recited in claim 1 wherein said aggregate selector treats errors in said selected path length as having unequal degrees of importance [col. 7, lines 36-55 and col. 11, lines 25-61].

As per claim 3, Hsu teaches a method of selecting open shortest path first (OSPF) aggregates (summary information of network fig. 1c and col. 5, 44-54) for advertising, comprising:

storing data pertaining to candidate OSPF aggregates and corresponding weights (link cost) (col. 4, lines 33-45 and col. 5, 44-54); and

selecting at least a subset of said data pertaining to said candidate OSPF aggregates (summary information of network fig. 1c) such that a selected path length between said particular source and destination subnets (col. 4, lines 1-17 and col. 5, lines 44-52) resulting from advertisement of weights corresponding to said subset approaches a shortest path length

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between said particular source and destination subnets
irrespective of said advertisement [the cost (weight) of a link
is the product of its static cost from link state advertisement
and calculated cost bias factor of for each link col. 3, lines
15-20; col. 6, lines 29-65 and col. 10, lines 13-61].

As per claim 4, Hsu teaches the method as recited in claim 3
wherein said selecting comprises computing a lower bound or
error for said candidate OSPF aggregates employing a set of
recursive equations treating errors in selected shortest path
length as having unequal degrees of importance [col. 6, lines 61
to col. 7, lines 56 and col. 11, lines 25-56. see also col. 12,
lines 31-39].

As per claim 5, Hsu teaches an autonomous network domain (fig.
1c and col. 10, lines 22-41), comprising:

 plurality of routers and interconnecting segments that
cooperate to form subnets and paths there between (see fig. 1C);
and

 a system for selecting open shortest path first (OSPF)
aggregates for selecting including:

 a database (database 154, fig. 1D) for containing candidate
OSPF aggregates and corresponding weights (link cost) (col. 4,

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lines 1-17), and an aggregate selector (fig. 1C, BCRC 115 C), associated with said database, that selects at least a subset of said OSPF aggregates to advertise by an area border router "OSPF introduces the concept of area to improve Autonomous System (AS) scalability through topology hierarchy. In this section, we consider extending the multi-class algorithm with cost bias to inter-area routing scenarios. The biased cost route selector follows the approach in which the area border routers (ABRs) calculate the available path bandwidths to networks external to an area and advertise them in the summary LSAs (or some new Opaque LSAs." (Col. 10, lines 22-41) such that a selected path length between said particular source and destination subnets (col. 4, lines 6-17 and col. 5, lines 44-52) resulting from advertisement of weights corresponding to said subset approaches a shortest path length between said particular source and destination subnets irrespective of said weight advertised [the cost (weight) of a link is the product of its static cost from link state advertisement and calculated cost bias factor of for each link col. 3, lines 15-20; col. 6, lines 29-65 and col. 10, lines 13-61].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7-21 rejected under 35 U.S.C. 103(a) as being unpatentable over HSU USPN (6363319) in view Rabinovich USPN. (6256675).

As per claims 7, 12 and 17, Hsu teaches a system for selecting open shortest path first (OSPF) aggregate weights (link cost) for a particular area (fig. 1C area 102), comprising:

a database for containing data pertaining to candidate OSPF aggregates [col. 4, 38-45 and col. 5, 44-54]; and

a weight assigner, associated with said database, that assigns, for said OSPF aggregates, weights for an area particular area border router (ABR) of said area [col. 5, lines 44-63 and col. 6, line 30-61. see also col. 10, lines 13-61].

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Although HSU shows substantial features of the claimed invention as explained in claims 7, 12 and 17 including a cost (weight) for links, he does not explicitly show weights based on average distance of subnets in an area.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by HSU, as evidenced by Rabinovich USPN. (6256675).

In analogous art, Rabinovich whose invention is about a system for allocating requests for objects in a routed network using protocols such as OSPF and BGP, disclose an autonomous system with a preference path based on average distance of subnets in an area (autonomous system areas) [Col. 14, lines 8-33 and col. 19, lines 12 to col. 20, line 10]. Giving the teaching of Rabinovich, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying HSU by employing the system of Rabinovich for the benefit of routing data packets destined to remote hosts on the closest and shortest path.

As per claims 8, 13 and 18, Rabinovich teaches the invention wherein said weight assigner employs a search heuristic to assign said weights [col. 10, lines 31-65 and col. 15, lines 60 to col. 16, line 22].

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As per claims 9,11,14,16,19 and 21, Hsu teaches the invention wherein said weight assigner treats errors in path lengths in said area as having unequal degrees of importance [col. 7, lines 36-55 and col. 11, lines 25-61].

As per claims 10,15 and 20, these claims include similar limitations addressed in claims 7 and 8. Therefore, they are rejected with the same rationale.

Allowable Subject Matter

5. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. **ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this

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action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Barqadle whose telephone number is 571-272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7238 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR system. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YB

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ABDULLAH SALAD
PRIMARY EXAMINER